

EVALUATION OF AN AUTOMATED URINE SEDIMENT ANALYZER FOR THE DIAGNOSIS OF RENAL DISORDERS AND COMPARISON WITH MANUAL METHODS

ABSTRACT:

Background:

Urinalysis provides information and clues to many diseases and can also be an indication of the condition of a patient's health. The aim of this study was to evaluate the performance of an automated urine particle analyzer in patients with renal diseases and compare the results of microscopy obtained by automation with manual microscopic analysis.

Methods:

A total of 500 urine samples sent for urinalysis were selected at random and were assessed using automatic urinalysis system – FUS-100 (manufactured by Dirui Industrial Co. Ltd., China) and manual microscopic analysis. Simultaneously control samples from a population without known renal disorders will be studied.

Results:

The FUS-100 automated urine particle analyzer performance is better than the manual microscopy for detecting RBCs, WBCs and squamous epithelial cells when compared with the manual method. Though it recognizes some crystals and casts, it fails to classify them.

Conclusion:

It can be concluded that the automated urine microscopic analysis were time-saving and standardized technique, especially for reducing preanalytical errors such as the study time, centrifugation, preparation of the sediment. Automation cannot completely replace microscopic sediment examination. However it can, when combined with dipstick testing, reduce the number of specimens submitted for manual microscopy.

KEY WORDS: Urine sediments, automated analyzer, manual microscopy.